that in a few fruits all but two ovules are suppressed, which in turn emerge out simultaneously in a viviparous manner (figure 9). This phenomenon for this species as far we know is the first record in India.

Vivipary in eumangroves is habitat related and physiologically significant from the perspective of saline habitat. The unusual multiplicity of seedlings from a single fruit is intriguing. Whether this is under genetic control or under environmental stress is so far, not clear.

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CASSIA SERICEA S. TO FIGHT *PARTHENIUM HYSTEROPHORUS* LINN.

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THE fight against *Parthenium hysterophorus* Linn, a gregarious weed is being much discussed for more than a decade. The harm it does to human beings, livestock and to crop plants is well documented[1–7]. Among the methods advocated for its control, spraying chemicals[6,8] and introducing host-specific biotic agents[9,10] have drawn much attention. However, the implementation of these methods is yet to make a significant impact on Parthenium population.

It is common to control the weeds in cultivated lands by dense planting of some vigorously growing crop adopting the principle of crop competition. However, the same cannot be extended to vacant lands and roadsides which are the reservoirs of unwanted weeds. In these unprotected places, the cattle are likely to graze away or the other biotic factors may destroy the introduced plant leaving the weeds to grow more vigorously in a competition-free environment. If such principle has to be adopted effectively to vacant lands, the plant introduced to fight the weed has to be harmless, not grazed readily by cattle, but useful to a certain extent and at the same time affect the growth of the weeds like Parthenium by its more vigorous growth and/or allelopathic effect. All such qualities are found in *Cassia sericea*, which has established in Dharwad and Belgaum districts where it has substantially controlled the growth of the pernicious weed, Parthenium.

C. sericea is considered a native of tropical South America, particularly West Indies and Brahmas and its introduction is more recent[11] than that of Parthenium[12,13]. A survey of many places in Dharwad and Belgaum districts in the past few years revealed that the places where Parthenium grew gregariously earlier have been gradually and effectively invaded by *C. sericea* and the growth of the former has been considerably smothered.

C. sericea is an erect or branching annual (figure 1), 20–180 cm tall, growing in conspicuous colonies (figure 2) along the railway lines, roadsides and wastelands[11,14]. It is often mistaken for *C. tora* which it resembles to a considerable extent. The key characters enlisted in table 1 help in their correct identification.

In addition to smothering the growth of the gregarious weed Parthenium, the plant has its own uses. The tender leaves are eaten as vegetable while the older lush green foliage serves as green manure. The leaf extract is believed to heal some specific types of eczema. The dried stems can also be used as fuel. The seeds are dry-fried and blended with coffee beans and powdered.

The growth and spread of *C. sericea* may prompt the biologists and environmentalists to consider that it may also become a menace. However, the botany of *C. sericea* reveals that a single plant in a colony produces hardly 300–600 seeds in contrast to Parthenium which produces as many as 8,000–10,000 seeds. Its spread is limited as the pods do not shatter and the heavy seeds are not wind propagated as in Parthenium. Its spread can be checked and its removal is easier than that of Parthenium.

As the spread and initial establishment of *C. sericea* is relatively slow, the intentional introduction of this harmless but useful plant by human assistance in Parthenium-infested lands can effectively smother the

Figure 1. *Cassia sericea branch.*

Figure 2. Conspicuous colonies of *Cassia sericea* as seen in Dharwad city.

growth of the latter, and in course of time, the lands can be released from the clutches of the pernicious weed, Parthenium.

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Table 1. *Morphological differences between the two species of Cassia*

Character	*Cassia sericea*	*Cassia tora*
Leaf at first node	Bifoliate compound	Quadrifoliate compound
Leaf from 8th node onwards	Generally 8 or even 10 foliate compound	Generally 6 foliate compound
Number of fruits/node	Generally in pairs and sometimes only one	Generally 5–6 in cluster or sometimes 2–3
Pod length	10–15 cm	3–4 cm

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OBSERVATIONS ON MEIOBENTHOS FROM THE MANGALORE REGION [WEST COAST OF INDIA]

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THE benthic fauna is known to be of considerable importance in the marine food chain and are involved in the recycling of materials. At present only very little